

229/230 Series Lead-Free 2AG, Slo-Blo[®] Fuse and Indicating Slo-Blo[®] Fuse

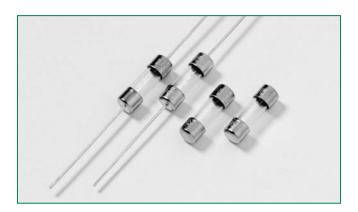












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Agency	Agency File Number	Ampere Range
(10480		250mA - 3.5A
(LR 29862	250mA - 7A
<i>71</i> 2	E10480	4A - 7A
PS	NBK210405 - E10480D/F/G/H	1A - 7A
Œ		250mA - 7A

Electrical Characteristics for Series

% of Ampere Rating	Opening Time			
100%	4 hours, Minimum			
135%	1 hour, Maximum			
200%	3 seconds, Minimum			
200%	20 seconds, Maximum			

Description

The 2AG Slo-Blo® Fuses are available in cartridge form or with axial leads. 2AG Fuses provide the same performance characteristics as their 3AG counterpart, while occupying one-third the space.

The fuse catalog number with the suffix "S" instantly identifies itself upon opening by showing a discoloration of its glass body. Guesswork and time consuming circuit testing are eliminated. This unique design offers the same quality performance characteristics as the standard 2AG Slo-Blo® fuse design. When ordering the 2AG Indicating Slo-Blo® Fuse, an 'S' is required after the catalog number.

Features

- In accordance with UL Standard 248-14
- RoHS compliant and Lead-free
- Fuses are available for board washable with the additional sealing process, need to add the suffix A
- Available in cartridge and axial lead form and with various lead forming dimensions
- Sleeved fuses are available

Applications

- Standard 229/230 series meets the demanding requirements of the Telecom Industry.
- These fuses combine conventional overcurrent protection with ability to withstand high current, short duration pulses which complies to short circuit requirements of UL 1459 for Telecom equipments.

Axial Lead & Cartridge Fuses 2AG > Time Lag > 229/230 Series



Electrical Characteristic Specification by Item

	A Ampere	e Voltage	oltage	Nominal Cold Nominal			Agency Approvals			
Amp Code	Rating (A)	Rating (V)	Interrupting Rating	Resistance (Ohms)	Melting I ² t (A ² sec)	(ÎL)	<i>9</i> 17	PS	(Œ
.250	0.25	250		2.4300	0.216	Х			Х	Х
.350	0.35	250		1.3100	0.490	Х			X	Х
.375	0.375	250	35A@250Vac	1.1685	0.580	Х			X	X
.500	0.5	250	10KA@125Vac	0.6935	1.16	X			X	Х
.600	0.6	250	10KA@125Vdc	0.4805	1.75	X			X	X
.750	0.75	250	80A@310Vac	0.3430	2.95	X			X	Х
.800	0.8	250		0.3060	3.45	X			X	Х
001.	1	250		0.2120	5.64	X		X	X	X
1.25	1.25	250		0.1460	9.80	X		Х	Х	X
01.5	1.5	250	100A@250Vac	0.1077	15.0	X		X	X	X
002.	2	250	10KA@125Vac	0.0698	30.0	X		Х	Х	X
2.25	2.25	250	10KA@125Vdc	0.0567	39.0	X		X	X	Х
02.5	2.5	250	80A@310Vac	0.0502	50.0	X		Х	Х	X
003.	3	250		0.0383	77.0	X		X	X	Х
03.5	3.5	250	100A@250Vac 10KA@125Vac 10KA@125Vdc	0.0312	110.0	x		x	x	х
004.	4	125		0.0258	148.0		Х	Х	X	Х
005.	5	125	400A@125Vac	0.0186	267		Х	Х	Х	Х
006.	6	125	400A@125Vdc	0.0141	380		Х	Х	Х	Х
007.	7	125		0.0116	464		Х	Х	Х	Х

Axial Lead & Cartridge Fuses 2AG > Time Lag > 229/230 Series

Description

Standard 229 and 230 Series Slo-Blo fuses meet the demanding requirements of the Telecom industry. These fuses combine conventional overcurrent protection with the ability to withstand high current, short duration pulses. These fuses comply with the short circuit requirements of UL 1459 for telephone equipment. Insulating sleeve option available.

Features

In accordance with underwriter's Laboratories Standard UL 248-14.

Available in cartridge and axial lead from and with various lead forming dimensions.

RoHS compliant and lead-free.

Available in ratings from 250mA to 1.25A.

Fuses are available for board washable with the additional sealing process, need to add the suffix A

Applications

Used for the telecom industry.

Surge Withstand Specifications

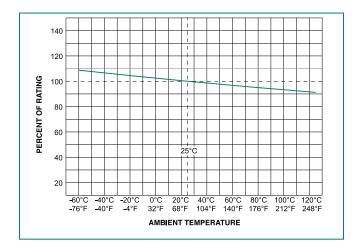
Peak Withstand Current(Ip): These fuses will withstand 50 repetitions of a double exponential impulse wave having peak currents(Ip) and peak voltages as listed.

Amp Code	Ampere Rating (A)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A² sec)	10 x 160 μs 1500V	10 x 560 μs 800V	10 x 1000 μs 1000V
.250	0.25		2.4300	0.216	23.0A	16.6A	12.4A
.350	0.35	60A@600Vac	1.3100	0.490	34.0A	25.8A	19.3A
.375	0.375		1.1685	0.580	40.0A	25.4A	19.0A
.500	0.5		0.6935	1.16	60.0A	37.7A	28.2A
.600	0.6	40A@600Vac 7A@600Vac	0.4805	1.75	71.0A	47.2A	35.3A
.750	0.75	2.2A@600Vac	0.3430	2.95	91.0A	65.5A	49.0A
.800	0.8	2.27.8000 vac	0.3060	3.45	104.0A	68.9A	51.6A
001.	1		0.2120	5.64	130A	88.6A	66.3A
1.25	1.25*		0.1460	9.80	162.0A	118.1A	100.0A

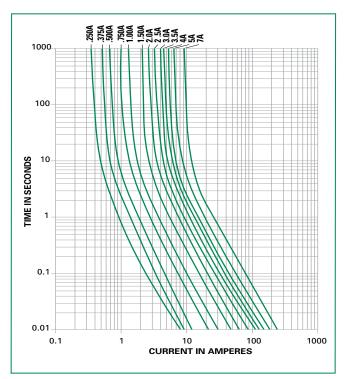
^{* 500}A peak, 2500V, 2 x 10 microseconds, 20 repetitions



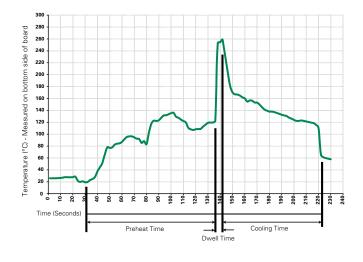
Temperature Rerating Curve



Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
Preheat:	
(Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100° C
Temperature Maximum:	150° C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260° C Maximum
Solder DwellTime:	2-5 seconds

Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350° C +/- 5°C Heating Time: 5 seconds max.

Note: These devices are not recommended for IR or Convection Reflow process.



Product Characteristics

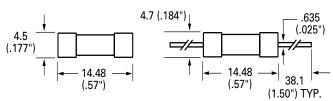
Materials	Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper			
Terminal Strength	MIL-STD-202G, Method 211A, Test Condition A			
Solderability	Reference IEC 60127 Second Edition 2003-01 Annex A			
Product Marking	Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks			

Operating Temperature	-55°C to +125°C
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B: (5 cycles - -65°C to 125°C)
Vibration	MIL-STD-202G, Method 201A
Humidity	MIL-STD-202G, Method 103B, Test Condition A: High RH (95%) and Elevated temperature (40°C) for 240 hours
Salt Spray	MIL-STD-202G, Method 101D, Test Condition B

Dimensions

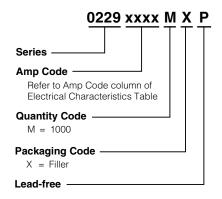
229 000P Series

230 000P Series



Axial Lead Material: Solder coated Copper.

Part Numbering System



Axial Lead & Cartridge Fuses 2AG > Time Lag > 229/230 Series



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width	
29 Series					
Bulk	N/A	5	VX N/A		
Bulk	N/A	5	VXS	N/A	
Bulk	N/A	100	HX	N/A	
Bulk	N/A	100	HXS	N/A	
Bulk	N/A	1000	MX	N/A	
Bulk	N/A	1000	MXS	N/A	
0 Series	·		·		
Bulk	N/A	5	VX	N/A	
Bulk	N/A	5	VXS	N/A	
Bulk	N/A	100	HX	N/A	
Bulk	N/A	100	HXS	N/A	
Bulk	N/A	1000	MX	N/A	
Bulk	N/A	1000	MXE	N/A	
Bulk	N/A	1000	MXF1	N/A	
Bulk	N/A	1000	MXF16	N/A	
Bulk	N/A	1000	MXF16O	N/A	
Bulk	N/A	1000	MXF17	N/A	
Bulk	N/A	1000	MXF170	N/A	
Bulk	N/A	1000	MXF23	N/A	
Bulk	N/A	1000	MXF23O	N/A	
Bulk	N/A	1000	MXF32	N/A	
Bulk	N/A	1000	MXO	N/A	
Bulk	N/A	1000	MXS	N/A	
Reel and Tape	EIA 296-E	1500	DRT2	T2=63mm (2.500"	
Reel and Tape	EIA 296-E	1500	DRT2S	T2=63mm (2.500")	
Reel and Tape	EIA 296-E	1500	DRT4	N/A	
Reel and Tape	EIA 296-E	2500	ERT2	T2=63mm (2.500")	
Reel and Tape	EIA 296-E	2500	ERT2S	T2=63mm (2.500")	
Reel and Tape	EIA 296-E	1000	MRT1E	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	1500	DAT1	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	1500	DAT10	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	1500	DRT1	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	1500	DRT1S	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	1500	DRT1SS	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	1500	DRT3	T3=73mm (2.874")	
Reel and Tape	EIA 296-E	1500	DRT3S	T3=73mm (2.874")	
Reel and Tape	EIA 296-E	2500	ERT1	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	2500	ERT1S	T1=52mm (2.062")	
Reel and Tape	EIA 296-E	2500	ERT3	T3=73mm (2.874")	
Reel and Tape	EIA 296-E	2500	ERT3S	T3=73mm (2.874")	